CLAIMS

1. A feedback assembly (1) for an electronically controlled electro-mechanical actuating unit (2) for a motor vehicle, the feedback assembly (1) comprising a connection (3) to the actuating unit (2), a shaft (10), which is angularly fixed to a steering member of the motor vehicle, and an electrical actuator (20), which is angularly coupled to the shaft (10) for exerting a resistant torque on the shaft (10) itself according to the conditions of movement of the motor vehicle; the feedback assembly (1) being characterized in that it comprises a first mechanical transmission (21) with concurrent axes (A, B), which is set between the electrical actuator (20) and the shaft (10).

2. The feedback assembly according to Claim 1, characterized in that it comprises a relative-measurement device (30) of an angular position of the shaft (10), and a second mechanical transmission (31) with concurrent axes (A, C), which is set between the relative-measurement device (30) and the shaft (10) itself.

3. The feedback assembly according to Claim

2, characterized in that the electrical actuator (20) and the relative-measurement device (30) are arranged according to respective axes (B, C) orthogonal to one another.

4. The feedback assembly according to Claim 3, characterized in that each of the mechanical transmissions (21, 31) comprises a respective bevel-gear pair, which functions as an overgear and is defined by a pinion (25, 35) for each mechanical transmission (21, 31) and a ring bevel gear (23) angularly fixed to both of the pinions (25, 35) and to said shaft (10).

5. The feedback assembly according to Claim 4, characterized in that the relative-measurement device (30) is defined by an incremental encoder (32) having a given angular resolution incremented by a multiplying factor equal to a gear meshing ratio of the respective mechanical transmission (31).

6. The feedback assembly according to any one of the preceding claims, characterized in that it comprises an absolute-measurement device (40) of an angular position of the shaft (10), which in turn comprises at least one analogical position sensor

(42) fitted on the shaft (10).

7. The feedback assembly according to Claim 6, characterized in that the absolute-measurement device (40) comprises two analogical position sensors (42) fitted on the shaft (10), one analogical sensor (42) being redundant with respect to the other analogical sensor (42).

8. The feedback assembly according to Claim 7, characterized in that it comprises a containment shell provided with a window for each mechanical transmission (21, 31), and a threaded lid for adjustment of pre-loading of the bearings of the mechanical transmission (21, 31) itself.

9. A feedback assembly for an electronically controlled electro-mechanical actuating unit for a motor vehicle, basically as described herein with reference to the annexed drawings.